

**REMARKS**

With entry of the present amendment, claims 1 to 17 and 21 are pending. Claims 18-20 are canceled. Claims 11-15 and 21 are allowed.

Claim 16 is amended to delete the term "pharmaceutical." Claim 17 is amended to recite specific cancers and delete reference to a patient. Support for this amendment is found, inter alia, at paragraph [0002] of the instant application. No new matter is believed to be presented by the foregoing amendments to the claims.

Entry of this amendment and reconsideration of the claims, as amended and in view of the following remarks, is requested.

**The Section 112 Amendments**

Claims 16-20 are rejected under 35 USC § 112, first paragraph, as not being enabled "for treating any human disease." Claims 18-20 are canceled, thus the rejection of these claims is moot. The rejection of claims 16 and 17 is traversed.

Claim 16 is directed to a composition claim comprising a novel compound of claim 1 and a pharmaceutically acceptable carrier or excipient. The PTO rejects this claim asserting that the "specification does not enable any physician skilled in the art of medicine ...to use claim 16. Office Action at p. 2. This rejection is legally and factually improper and should be withdrawn.

A patent specification is not the proper reference by which a Physician is trained, or ever consults, in ascertaining how to treat a patient. That is done by consulting the Package Insert which is approved by the FDA after clinical trials are conducted. It is well settled that patent applications do not have to present the type of evidence (namely clinical trials) that are required by the FDA to approve a pharmaceutical product.

At pages 2-4 (paragraphs [0005]-[0009] ) of the instant specification applicants cite several references showing the work of others in the field of protein kinase, including Src, inhibition and the understanding in the pharmaceutical industry of relationship of this activity to cancer therapy. The PTO seems to dismiss this evidence by quoting a Sawyer 2001 article ("Sawyer I") that "there are no Src inhibitor drugs on the market yet." That is not a proper basis for a PTO enablement rejection. If it were, then there would have been no patents on cancer therapies as clearly an invention needed to come prior to marketing. Moreover, in a subsequent 2004 article, Sawyer acknowledges that Src is indeed a promising therapeutic target for cancer metastasis. See Tomi Sawyer, Expert Opin. Investig. Drugs (2004) 13(1):1-19 at page 1 ("Sawyer II"). In addition, at paragraph [0005] of the instant application applicants have cited Boschelli, Small molecule inhibitors of Src family kinases," Drugs of the Future **2000**, 25(7):717-736 in support of the proposition that it is recognized in the drug research industry that inhibition of Src is believed to correlate to treatment of colon, breast and hepatic tumors. See, *also*, e.g., Peter Traxler (Novartis), Tyrosine Kinases as targets in cancer therapy – successes and failures, Expert Opinion Ther Targets (2003) 7(2):215-234, Table 1, page 216, wherein he shows the Src family of kinases as being valid targets for solid tumor therapeutic discovery projects. All of these articles are of record in the instant application.

In the PTO's Training Materials For Examining Patent Applications with Respect to ...Enablement, at pages 11-12, examples are provided that specifically address the very issues being raised herein by the PTO with respect to claim 16. It is stated: "The presence of the phrase 'pharmaceutically acceptable' in combination with the disclosed in vivo use implies some pharmaceutical use. Therefore, the initial enablement analysis should be based on whether there is any evidence that one skilled in the art could not use the compound for any disclosed or well-established pharmaceutical use, ..., without undue experimentation " (emphasis added). Thus, the test is not as the PTO seems to be applying, namely that applicant has to prove that Src inhibition necessarily

leads to a therapeutic use, but rather that it is the PTO's burden to show that one skilled in the art could not use the compound for the disclosed pharmaceutical use without undue experimentation. The PTO has not met that burden on the current record. On the contrary, the very reference which the PTO uses to support its position, rebuts it. The Tomi Sawyer quote appearing on page 3 of the OA is taken out of context. The actual quote on page 1338 is as follows: "Although there are no Src inhibitor drugs on the market yet, several companies (e.g. ARIAD, Novartis, Pfizer, Sugen/Pharmacia, Wyeth-Ayerst) are actively engaged in drug discovery as exemplified by a majority of the compounds described in this review. Promising therapeutic applications of Src inhibitors exist for both osteoporosis and cancer treatment." Later on in the very same page Sawyer states: "Src tyrosine kinase is intimately associated with the signal transduction pathways which underlie tumour proliferation as well as tissue invasion and metastasis in a number of cancers....Overall, there exists significant potential for a Src inhibitor drug for the treatment of cancer and related diseases." These statements completely rebut the PTO's assertion that one skilled in the art could not use the claimed composition.

The PTO also cites to a statement in Laird, Expert Opin. Investig. Drugs (2003) 12(1):51-64, p. 52, that the kinase inhibitors in clinical development are primarily receptor tyrosine kinases. However, clinical development is not the test by which to assess enablement. More significantly from the standpoint of enablement and patentability, however, is the statement that Laird makes at page 57 of the same article: "The Src family of non-receptor tyrosine kinases are among the best characterized of all signaling molecules. The widely expressed (and closely related) Src and Yes kinases are particularly attractive targets for therapeutic intervention in cancer, having being [*sic*] implicated in the growth and dissemination of breast and colon cancer." Thus, as with the Sawyer articles, Laird actually rebuts the PTO's conclusions.

Finally, in rebuttal to the PTO's conclusion at OA 4 that "Src may be too ubiquitous to be safely inhibited," applicants refer to the fact that numerous

pharmaceutical companies, as mentioned in the articles of record, are investing in the inhibition of this kinase and the announcement at the recent 2005 ASCO annual meeting that BMS-354825, a SRC/ABL kinase inhibitor, has entered Phase I clinical trials. See 2005 ASCO Abstract No. 6519, enclosed. Clearly those skilled in the art do not doubt the clinical potential of Src inhibition.

The PTO acknowledges that applicants provide data from an in vitro assay measuring Src inhibition. However, this data and assay are dismissed because “[a]pplicants do not state and it is not recognized in the can therapy arts this assay is correlated to clinic [*sic*] efficacy for the treatment of any cancer.” Once again, the PTO has inverted the application of the rules. As stated at page 14 of the Enablement Guidelines, it is the Examiner who must give specific reasons, supported by evidence, why there is lack of correlation between an in vitro or in vivo model and the claimed method of use, and not for the applicants to prove the contrary. On page 3 of the OA, the PTO merely states that applicants’ assay is not art recognized, but there is no support for this conclusion. Applicants submit that in view of the literature of record, including that discussed above, the PTO’s unsupported conclusion regarding applicants’ assay is roundly rebutted.

Claim 17 is a method of treatment claim. It is amended to refer to specific types of cancer. These cancers are the very type stated in the literature of record to be those in which Src is over expressed and which are believed to be ameliorated with an Src inhibitor. See, Laird, *supra*, at p. 57; Sawyer II, *supra*, at p. 1 For the reasons provided above with respect to claim 16, this claim is also enabled on the current record and the Section 112 rejection should be withdrawn.

#### The Double Patenting Rejection

Claims 1-10 and 16-20 are provisionally rejected under the judicially created doctrine of obviousness double patenting as being unpatenable over claims 1-10 and

15-19 of copending, co-owned Application No. 10/689,235 (CD 21269 US 1). As there are no allowed claims in 10/689,235, applicants respectfully submit this rejection is premature. Applicants request that the double patenting rejection be held in abeyance until there is an indication of allowability in both of these pending cases at which point it can be assessed whether the allowed claims may in fact overlap. Without knowing what subject matter is ultimately allowed in these cases, applicants' cannot fairly assess the propriety of the double patenting rejection.

### **CONCLUSION**

The foregoing amendment is fully responsive to the Office Action issued September 26, 2005. Applicants submit that claims 1-17 and 21, as amended, are allowable. Early and favorable consideration is earnestly solicited.

If the Examiner believes there are other issues that can be resolved by telephone interview, or that there are any informalities remaining in the application which may be corrected by Examiner's Amendment, a telephone call to the undersigned attorney is respectfully solicited.

Applicants believe that no fee is due with this communication. However, should the Patent Office determine that a fee is owed, or a credit is due to applicant, the Patent Office is hereby authorized to charge any required fees, including any extension of time and/or excess claim fees, or credit any overpayment, to applicant's Deposit Account 08-2525 as appropriate.

Respectfully submitted,



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